SERIAL No.3340

ONKYO® SERVICE MANUAL

Integrated Stereo Amplifier
MODEL A-8700

U D	120V AC, 60Hz
U G	220V AC, 50Hz
U Q	240V AC, 50Hz
U W	120V/220V AC, 50Hz/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

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ONKYO
AUDIO COMPONENTS

SPECIFICATIONS

Continuous Power Output:	2 × 160 watts at 4 ohms, 1 kHz (DIN) 2 × 115 watts at 8 ohms, 1 kHz (DIN) 105 watts per channel, min, RMS, at 8 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.008% Total harmonic distortion.	
Dynamic Power:	303 watts at 2 ohms, 235 watts at 4 ohms	
Total Harmonic Distortion	0.008% at rated power 0.008% at 1 watt output	
Intermodulation Distortion:	0.005% at rated power	
Damping Factor:	150 at 8 ohms (1 kHz)	
Input Sensitivity/ Impedance:	Phono (MM):	2.5 mV/50 kohms
	Phone (MC):	160 μV/130 ohms
	CD:	150 mV/30 kohms
	TUNER:	150 mV/30 kohms
	Tape Play:	150 mV/30 kohms
Output Level/Impedance:	Tape Rec:	150 mV/1.0 kohms (Phono)
Phono Overload:	Phono (MM):	200 mV RMS. at 1 kHz. 0.012% THD.
Tone Control (Vol – 20dB):	BASS:	±8 dB at 100 Hz
	TREBLE:	±8 dB at 10 kHz
High Cut:	6 kHz (6 dB/Octave) (TREBLE min.)	
Frequency Response:	CD, Tuner:	2 Hz – 50 kHz (+0, –1 dB)
RIAA Deviation:	Phono (MM):	±0.3 dB, 20 Hz – 20 kHz
Subsonic Filter (MM SUBSONIC, MC SUBSONIC):	20 Hz (–3 dB, 6 dB/Oct.)	
Signal to Noise Ratio (IHF-A):	Phono (MM):	94 dB (5.0 mV input)
	Phono (MC):	75 dB (0.5 mV input)
	CD (DIRECT):	107 dB
Muting:	–20 dB	
Power Supply:	European models:AC220V, 50 Hz USA & Canadian models: AC 120V, 60 Hz U.K & Australia models: AC240V, 50 Hz Worldwide modesl: AC120 and 220V switchable, 50/60 Hz	
Dimensions (W×H×D):	435 × 157 × 391 mm 17-1/8" × 6-3/16" × 15-3/8"	
Weight:	13.5 kg, 29.8 lbs	

Specifications and features are subject to change without notice.

PRECAUTIONS

1. Replacing the fuses

For continued protection against risk fire, replace only with same type and same rating fuse.

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252052	7A ST-6, Primary fuse (120V, 120V/220V models)
F902	252077 or	4A-SE-EAK or
	252077CC	4A-SE-EAK Primary fuse (220V, 240V, 120V/220V models)

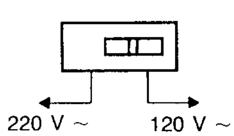
2. Insulation resistance mesurement (Only U.S.A. model)

Connect the insulating-resistance tester between the plug of power supply cable and the terminal GND on the back panel.

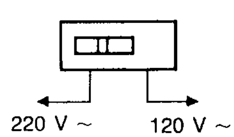
Specifications; More than 10 MΩ at 500V.

3. Voltage selector (rear panel)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on. Voltage is changed by sliding the groove in the switch with a screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on. Models without a voltage selector can only be used in areas where the power supply is the same as that of the unit.

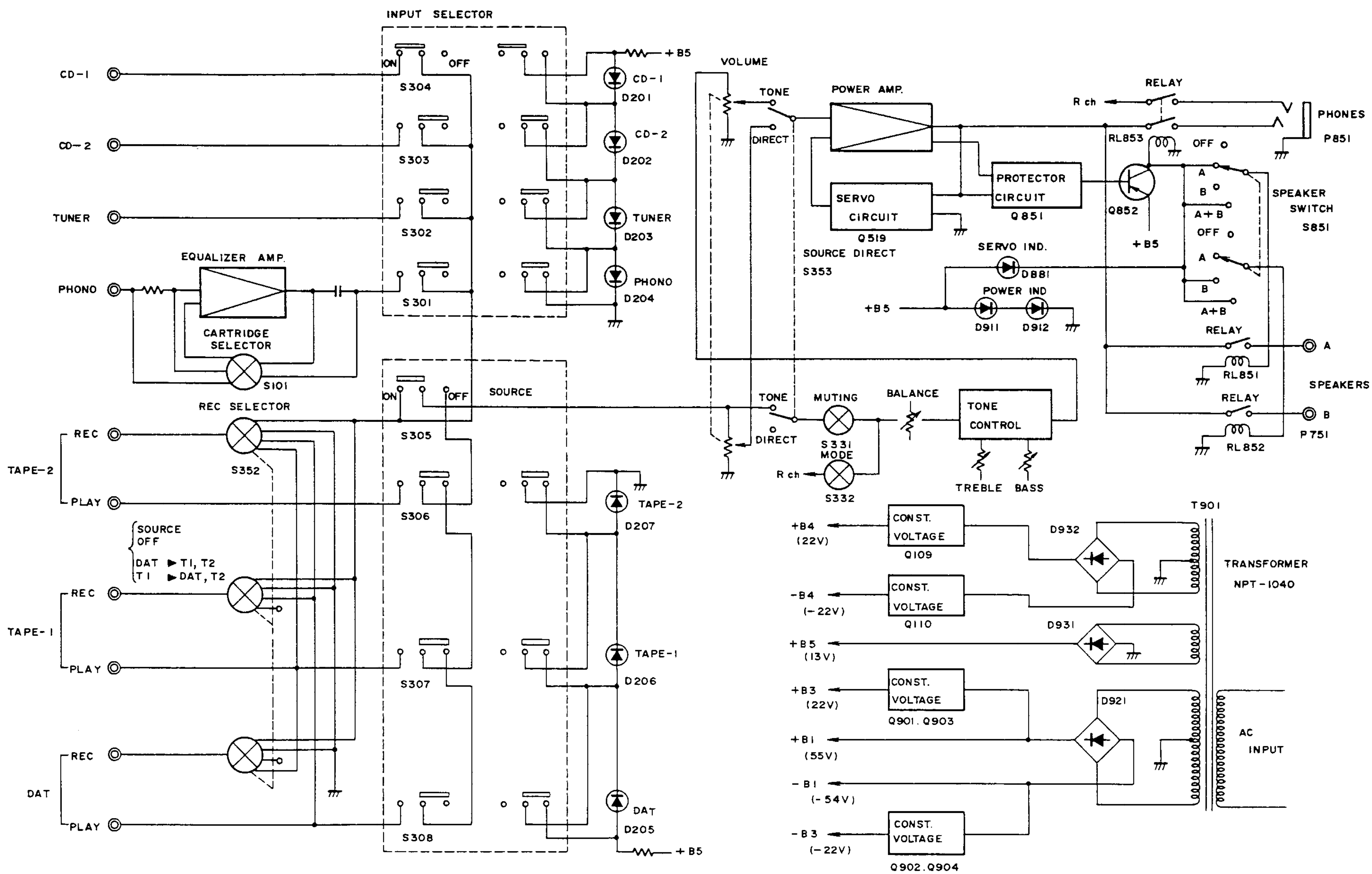


at AC 120 V



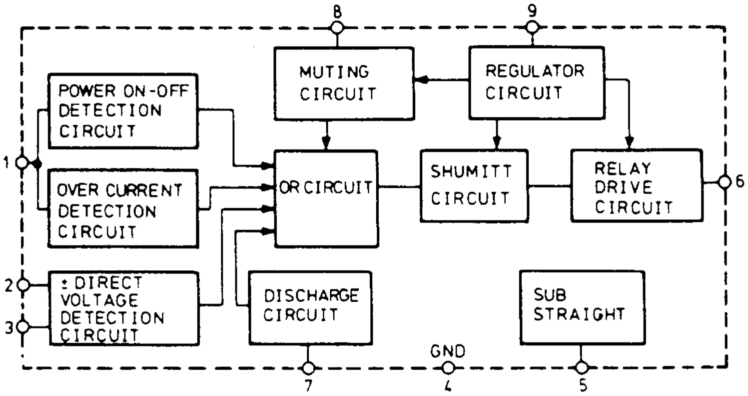
at AC 220 V

BLOCK DIAGRAM

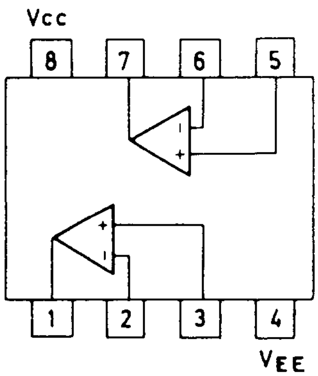


IC BLOCK DIAGRAM

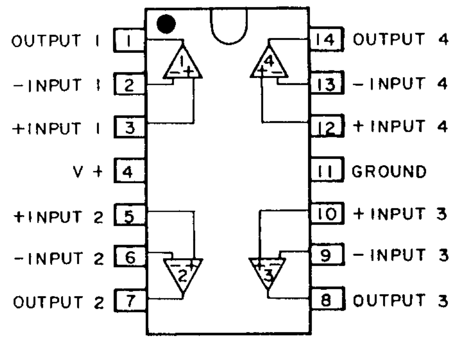
TA7317P (Protective circuit)



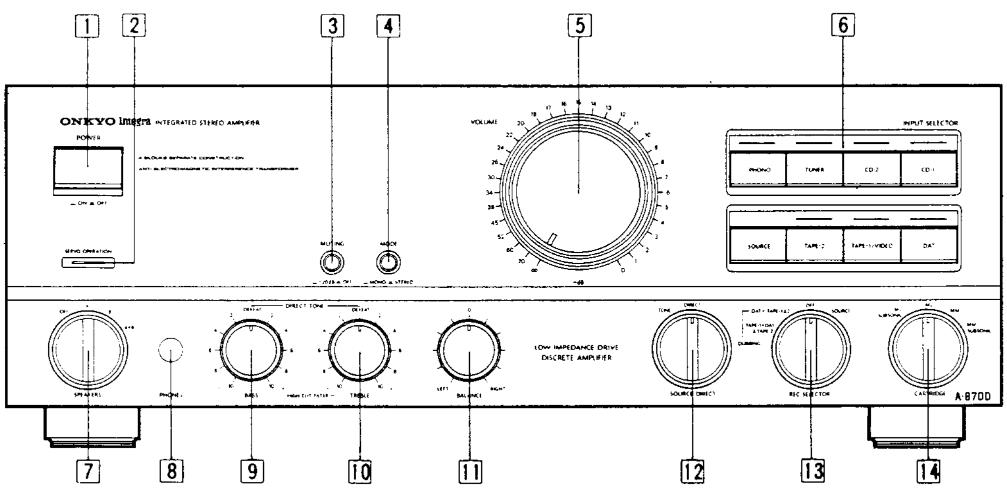
NJM4560DX (OP Amp.)
NJM5532DD



NJM2902N (OP Amp)

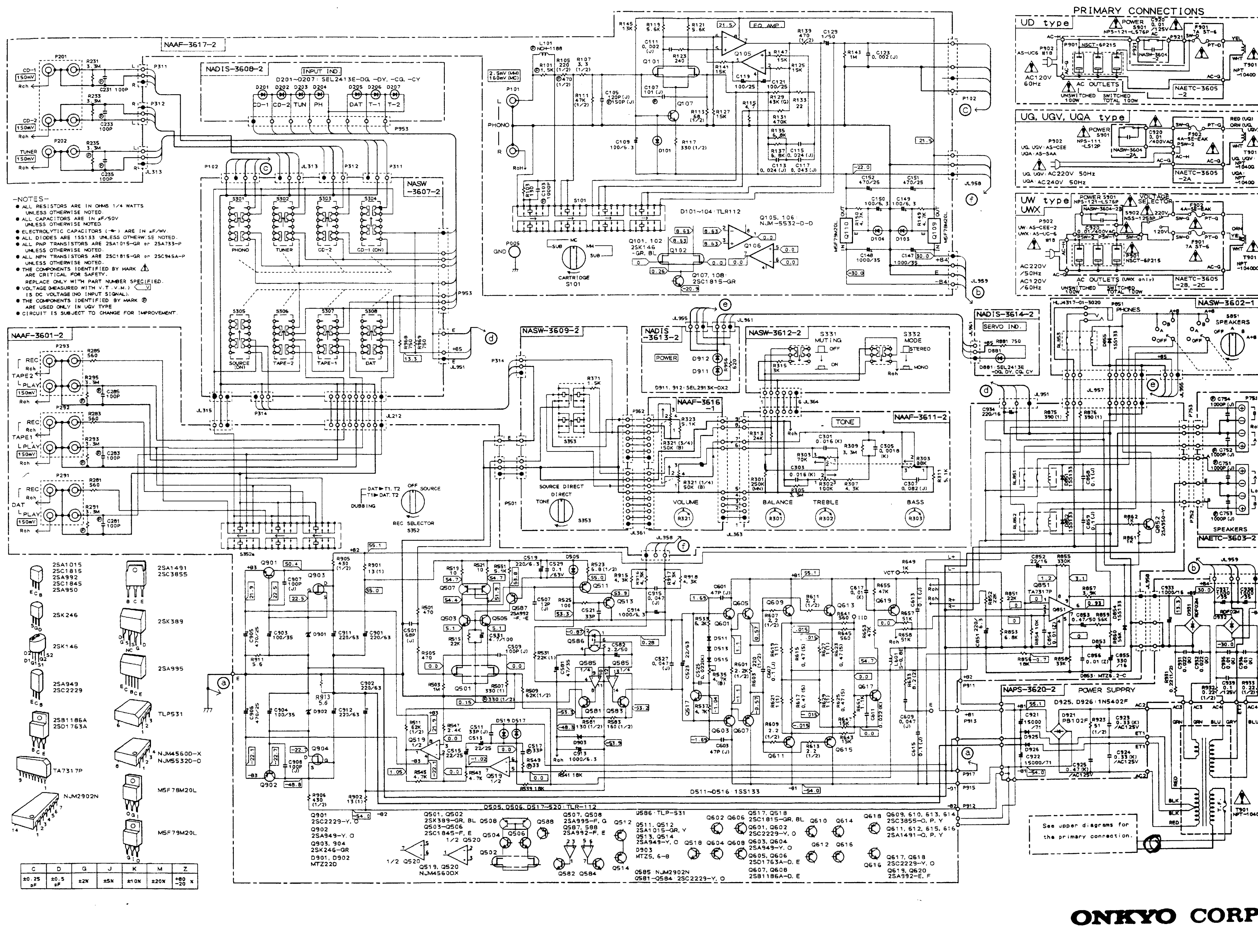


FRONT PANEL FACILITIES



1. Power switch (POWER)
2. Servo operation indicator (SERVO OPERATION)
3. Muting switch (MUTING)
4. Mode selector switch (MODE)
   STEREO, MONO
5. Volume control (VOLUME)
6. Input selector and Indicators (INPUT SELECTOR)
   PHONO, TUNER, CD-2, CD-1, SOURCE, TAPE-2, TAPE-1/VIDEO, DAT
7. Speaker selector switch (SPEAKERS)
   OFF, A, B, A+B
8. Headphone jack (PHONES)
9. Bass control (BASS)
10. Treble control (TREBLE)
11. Balance control (BALANCE)
12. Source direct switch (SOURCE DIRECT)
    TONE, DIRECT
13. Recording source selector switch (REC SELECTOR)
    TAPE-1→DAT & TAPE-2 / DAT→TAPE-1 & TAPE OFF
    SOURCE (PHONO, TUNER, CD-1 or CD-2)
14. Cartridge selector switch (CARTRIDGE)
    MC SUBSONIC, MC, MM, MM SUBSONIC

SCHEMATIC DIAGRAM



ONKYO CORPORATION

ADJUSTMENT PROCEDURES

Adjustments and Checking the Protection Circuitry

1. Preparations

1) Place the unit on the workbench. (There should be about 15 mm of space between the base plate of the unit and the work surface.)
2) Set up the unit as follows.
   (1) No load
   (2) No signal
   (3) Volume turned all the way down
   (4) Speaker switch OFF
   (5) Power switch OFF

Note) Check the following points before making adjustments
   (1) The power switch should be OFF.
   (2) The interior of the unit should not be warm.

2. Idling current adjustment

1) Turn the power switch ON and allow the unit to warm up for about 10 minutes.
   (1) Adjust R535 (R635) so that the voltage at test point VCT-IID on the NAAF-3601 circuit board is 15mV±5mV.
   Note) Semi-fixed resistors enclosed in parentheses ( ) are for the right channel.

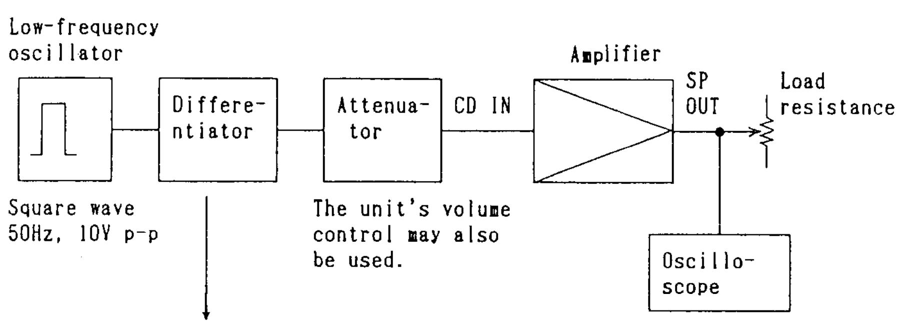
3. Check of operation of protection circuitry

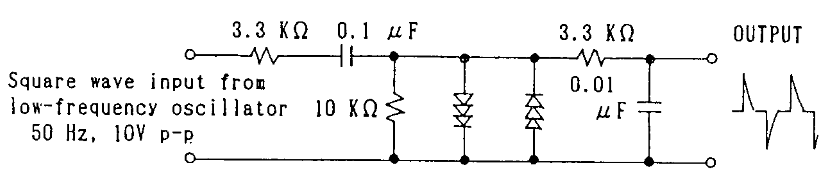
1) Check of operation of protection relay
   (1) Confirm that the relay turns ON approximately 5 seconds after the power switch is turned ON.
   (2) The SERVO indicator LED should light at the same time.
   (3) The relay should turn OFF approximately 0.5 seconds after the power switch is turned OFF.
2) Check of DC detection and servo circuitry operation
   (1) Turn the power on with no load.
   (2) After the speaker relay turns ON, apply DC+200mV to the CD input terminals. Confirm that the relay turns OFF.
   (3) Confirm that operation is the same as (2) above when an input of DC−200mV is applied.

Note) Under no circumstances connect a load or short the speaker terminals when performing the above test.

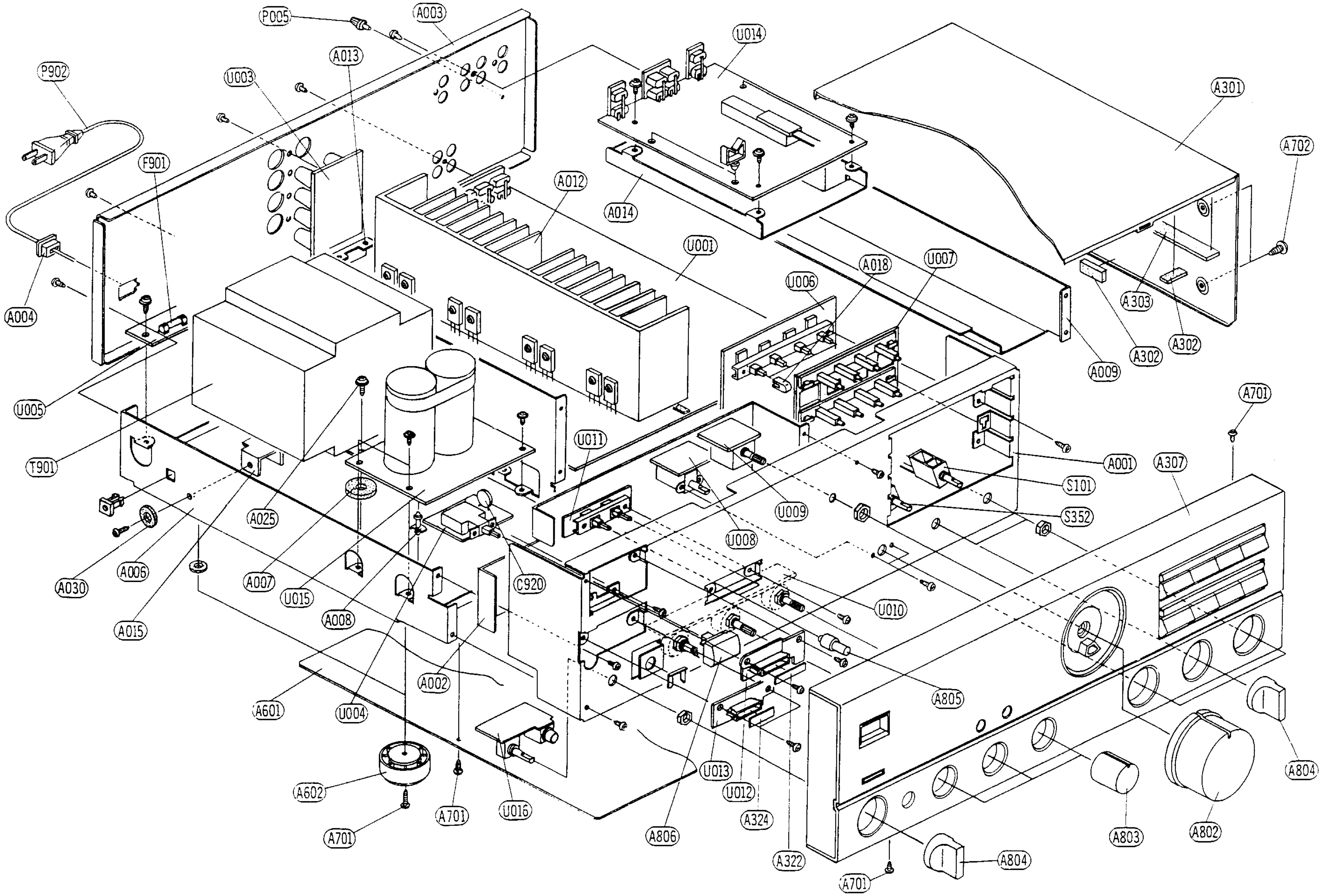
3) Signal input from the circuit illustrated below with no load.
   (1) Confirm that the speaker relay does not turn OFF even when a 2 ohm load is connected when a peak value of 35V p-p is output.
   (2) Next, confirm that when a 1 ohm load is connected the speaker relay switchse OFF and ON a couple of times and then stays OFF.

Note) The period before that relay stays OFF should not last for more than 1 minute.
   Relay OFF status can be canceled by switching the power OFF.





CHASSIS-EXPLODED VIEW



CHASSIS-EXPLODED VIEW-PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
A001	27110504A	FRONT BRACKET
A002	27150273	SHIELD PLATE
A003	27121283A	BACK PANELL [D]
A003	27121283-1A	BACK PANELL [G]
A003	27121283-3A	BACK PANELL [W]
A003	27121283-5	BACK PANELL [A][B]
A004	27300750	BUSHING (CABLE)
A006	27130579-1B	BRACKET ASS'Y (LEFT)
	(27130579B)	BRACKET (L)
	(27190717)	HOLDER (S)
A007	27270213	SPACER (PT)
A008	27190607	KGLS-16S, HOLDER
A009	27130580-1A	BRACKET ASS'Y (RIGHT)
	(27130580A)	BRACKET (R)
	(27190717)	HOLDER (S)
A012	27160243	HEATSINK
A013	27141334	BRACKET (H)
A014	27130581	BRACKET (EQ)
A015	27141353	BRACKET (U)
A018	27273120	JOINT (S)
A019	838430088	SPACER
A025	830440109	4TTC+10CBC, TAP-TIGHT SCREW
A030	27175011C	CUSHION
A301	28184441A	TOP COVER
A302	28140020	t4×10×40, CUSHION
A303	28140695	t1.5×25×240, CUSHION
A304	28140972	t1.5×25×140, CUSHION
A305	28140877	t4×10×100, CUSHION
A308	1A181121	FRONT PANEL ASS'Y
	(28125204)	END CAP (L)
	(28125205)	END CAP (R)
	(27265182A)	COSMETIC RING (VOL)
	(27265185)	COSMETIC RING (TONE)
	(27265186)	COSMETIC RING (SP)
	(27267608)	GUIDE (PUSH)
	(27267569A)	GUIDE (POW)
	(28323721B)	KNOB ASS'Y (SEL)
	(28198695)	FACET (POW)
	(28198719)	FACET (MUT)
A322	28199174	FILM
A324	28199181	FILM
A601	27170262B	BOTTOM BOARD
A602	27175227	BOTTOM LEG
	(28140949)	FELT
A603	28140761	CUSHION (BOTTOM BOARD)
A701	834430088	3TTS+8BBC, TAP-TIGHT SCREW
A702	838440108	4TTB+10BBC, TAP-TIGHT SCREW
A802	28323760	KNOB (VOL)
A803	28323549	KNOB (TONE)
A804	28323763	KNOB (SP), SCREW UP TYPE
(A804)	28323762	KNOB (SP), INSERT TYPE
	(27180431)	SPRING (KNOB), INSERT TYPE
A805	28323545-1	KNOB (PA)
A806	28323175	KNOB (POW)
Q609, Q610	2201703 or	2SC3855-O or
Q613, Q614	2201706 or	2SC3855-P or
	2201704	2SC3855-Y, TRANSISTOR
Q611, Q612	2201693 or	2SA1491-O or
Q615, Q616	2201696 or	2SA1491-P or
	2201694	2SA1491-Y, TRANSISTOR
⚠ T901	2300460A	NPT-1040D, POWER TRANSFORMER [D]
⚠ T901	2300461A	NPT-1040G, POWER TRANSFORMER [G]
⚠ T901	2300462	NPT-1040DG, POWER TRANSFORMER [W]
⚠ T901	2300463A	NPT-1040Q, POWER TRANSFORMER [A][B]
S101	25030312A	NRSF-104-20BU, CARTRIDGE SWITCH
S352	25030314B	NRSF-104-20BU, REC-SELECTOR SWITCH
⚠ S901	25035614	NPS-121-L576P, POWER SWITCH [D][W]
⚠ S901	25035550	NPS-111-L512P, POWER SWITCH [G][A][B]
⚠ S902	25065123	NSS-1258P, SLIDE SWITCH [W]
⚠ C920	3500065A	0.01μF, AC400V/125V, CAPACITOR
P005	25060044	GROUND TERMINAL
⚠ P902	253123 or	AS-UC-6 #18 or [D]
	253136 or	AS-UC-6 #18 or [D]
	253140 or	AS-UC-6 #18 or [D]
	253146	AS-UC-6 #18, POWER SUPPLY CABLE [D]
⚠ P902	253148 or	AS-CEE or [G]
	253150	AS-CEE, POWER SUPPLY CABLE [G]
⚠ P902	253092-1A	AS-CEE-2, POWER SUPPLY CABLE [W]
⚠ P902	253118	AS-SAA, POWER SUPPLY CABLE [A]
⚠ P902	728320 or	2-0.75BS16 BLK/GRY or [B]
	728328	2-0.75BS16 BLK/GRY, POWER SUPPLY CABLE [B]
⚠ F901	252052	7A ST-6, FUSE [D][W]
⚠ F902	252077 or	4A-SE-EAK or [G][W][A][B]
	252077CC	4A-SE-EAK, FUSE [G][W][A][B]
U001	1A181501-2	NAAF-3601-2, MAIN CIRCUIT PC BOARD ASS'Y
U003	1A181503-2	NAETC-3603-2, SPEAKER TERMINAL PC BOARD ASS'Y
U004	1A181504-2	NASW-3604-2, POWER SWITCH PC BOARD ASS'Y [D]
U004	1A181504-2A	NASW-3604-2A, POWER SWITCH PC BOARD ASS'Y [G][A][B]
U004	1A181504-2B	NASW-3604-2B, POWER SWITCH PC BOARD ASS'Y [W]
U005	1A181505-2	NAETC-3605-2, FUSE PC BOARD ASS'Y [D]
U005	1A181505-2A	NAETC-3605-2A, FUSE PC BOARD ASS'Y [G][A][B]
U005	1A181505-2B	NAETC-3605-2B, FUSE PC BOARD ASS'Y [W]
U006	1A181507-2	NASW-3607-2, INPUT SELECTOR SWITCH PC BOARD ASS'Y
U007	1A181508-2	NADIS-3608-2, INPUT LED PC BOARD ASS'Y
U008	1A181509-2	NASW-3609-2, SOURCE DIRECT SWITCH PC BOARD ASS'Y
U009	1A181516-1	NAAF-3616-1, VOLUME CONTROL PC BOARD ASS'Y
U010	1A181511-2	NAAF-3611-2, TONE CONTROL CIRCUIT PC BOARD ASS'Y
U011	1A181512-2	NASW-3612-2, MUTING/MODE SWITCH PC BOARD ASS'Y
U012	1A181513-2	NADIS-3613-2, POWER LED PC BOARD ASS'Y
U013	1A181514-2	NADIS-3614-2, SERVO LED PC BOARD ASS'Y
U014	1A181517-2	NAAF-3617-2, EQUALIZER CIRCUIT PC BOARD ASS'Y
U015	1A181520-2	NAPS-3620-2, POWER SUPPRY PC BOARD ASS'Y
U016	1A181502-2	NASW-3602-2, SPEAKER SWITCH PC BOARD ASS'Y

NOTE [D]: ONLY 120V MODELS
[G]: ONLY 220V MODELS
[W]: ONLY 120V/220V MODELS
[A]: ONLY AUSTRALIAN MODELS
[B]: ONLY BRITISH MODELS

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD PARTS LIST

MAIN CIRCUIT PC BOARD (NAAF-3601-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q519, Q520	222570	NJM4560DX
Q585	22240040	NJM2902N
Q851	222584	TA7317P
	Transistors	
Q501, Q502	2212805 or	2SK389GR or
	2212806	2SK389BL
Q503~Q506	2211733 or	2SC1845E or
	2211732	2SC1845F
Q507, Q508,	2211515 or	2SA995F or
	2211516	2SA995G
Q511, Q512	2211455 or	2SA1015GR or
	2211454	2SA1015Y
Q513, Q514	2211354 or	2SA949Y or
	2211353	2SA949O
Q517, Q518	2211255 or	2SC1815GR or
	2211256	2SC1815BL
Q581~Q584	2211634 or	2SC2229Y or
Q601, Q602	2211633	2SC2229O
Q587, Q588	2211792 or	2SA992F or
	2211793	2SA992E
Q603, Q604	2211354 or	2SA949Y or
	2211353	2SA949O
Q605, Q606	2202034 or	2SD1763AD or
	2202035	2SD1763AE
Q607, Q608	2202024 or	2SB1186AD or
	2202025	2SB1186AE
Q617, Q618	2211634 or	2SC2229Y or
	2211633	2SC2229O
Q619, Q620	2211792 or	2SA992F or
	2211793	2SA992E
Q852	2211504	2SA950Y
Q901	2211634 or	2SC2229Y or
	2211633	2SC2229O
Q902	2211354 or	2SA949Y or
	2211353	2SA949O
Q903, Q904	2211945	2SK246GR
	Photo coupler	
Q586	226007	TLP-531
	Diodes	
D505, D506	225251	TLR112, LED
D517~D520		
D511~D516	223163	1SS133
D851, D852		
D854		
D853	224450623	MTZ6.2C, Zener
D901, D902	224452204	MTZ22D, Zener
D903	224450562	MTZ5.6B, Zener
	Coils	
L601, L602	231134S	S-0.8E
	Capacitors	
C501, C502	372126804	68 pF, 50V, Styrene
C509, C510	372121014	100 pF, 50V, Styrene
C511, C512	372123304	33 pF, 50V, Styrene
C513~C516	391252207	22μF, 25V, Elect.(MUSE)
C519, C520	354722219	220 μF, 6.3V, Elect.
C523, C524	354772209	22μF, 63V, Elect.
C525, C526	379122235	0.022 μF, 50V, Film (DEW)
C527, C528	374794734	0.047 μF, 63V, Film (TF)
C609, C610		

CIRCUIT NO.	PART NO.	DESCRIPTION
C529, C530	374791044	0.1 μF, 63V, Film (TF)
C607, C608		
C613~C616		
C531, C532	354790479	4.7 μF, 100V, Elect.
C581, C582	354764709	47 μF, 35V, Elect.
C611, C612	379122235	0.022 μF, 50V, Film (DEW)
C617, C618	379121035	0.01μF, 50V, Film (DEW)
C851	354722219	220 μF, 6.3V, Elect.
C852	354742209	22μF, 16V, Elect.
C853	354784799	0.47μF, 50V, Elect.
C855	354743319	330 μF, 16V, Elect.
C858, C859	374721044	0.1 μF, 50V, Film (TF)
C901, C902	354772219	220 μF, 63V, Elect.
C903, C904	354761019	100 μF, 35V, Elect.
C905, C906	354751029	1000 μF, 25V, Elect.
C911, C912	354772219	220 μF, 63V, Elect.
C913	354721029	1000 μF, 6.3V, Elect.
C914	391221027	1000 μF, 6.3V, Elect. (MUSE)
C915	374724734	0.047 μF, 50V, Film (TF)
C934	354742219	220 μF, 16V, Elect.
	Resistors	
R507, R508	441623614	360 Ω, 1W, Metal oxide film
R523, R524	442520684	6.8 Ω, 1/2W Metal oxide film
R527, R528	441622234	22 kΩ, 1W, Metal oxide film
R535, R536	5210062 or	N06HR4.7KBD or
	5210216	N06HR5KBD, Semi-fixed
R581, R582	442521314	130 Ω, 1/2W, Metal oxide film
R583, R584	442521614	160 Ω, 1/2W, Metal oxide film
R601, R602	442522224	2.2kΩ, 1/2W, Metal oxide film
R603, R604	442522214	220 Ω, 1/2W, Metal oxide film
R607~R614	442520224	2.2 Ω, 1/2W, Metal oxide film
R615~R618	4000080	0.47Ω, 5W, Metal plate
R623~R626		
R619~R622	441620104	1 Ω, 1W, Metal oxide film
R627~R630		
R633, R634	441720824	8.2 Ω, 2W, Metal oxide film
R641, R642	442525614	560 Ω, 1/2W, Metal oxide film
R645, R646		
R643, R644	442521534	15 kΩ, 1/2W, Metal oxide film
R647, R648		
R875, R876	441623914	390 Ω, 1W, Metal oxide film
R901, R902	441621304	13 Ω, 1W, Metal oxide film
R905, R906	442524314	430 Ω, 1/2W, Metal oxide film
	Switch	
S352a	25065367	NSS-64140, Slide
	Relay	
RL851, RL852	25065316	NRL-2P7A-DC12-43
	Terminals	
P291~P293	25045165	NPJ-4PDBL59
	Plug	
P501a	25055133	NPLG-3P117
	Socket ass'y	
P752	2009990003	NSAS-06P0007
P753	2009990004	NSAS-06P0008
	Jumper socket	
JL212	25050273	NSCT-9P101
JL315, JL951	25050267	NSCT-3P95
JL958		
JL957	25050273	NSCT-9P101
	Bracket	
	27141059	
	27300877	Plate, bus

CIRCUIT NO.	PART NO.	DESCRIPTION
	Clamp	
	27301186	MSA-1606, Holder clamp

SPEAKER SWITCH PC BOARD (NASW-3602-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diode	
D855	223163	1SS133
	Switch	
S851	25030311A	NRSF-124-20BU
	Relay	
RL853	25065174	NRL-2P1A-DC12-09
	Stereo jack	
P851	25045164	HLJ4317-01-3020
	Shield plate	
	27150208	

SPEAKER TERMINAL PC BOARD (NAETC-3603-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P751	25060138	NTM-8PDMN066

POWER SWITCH PC BOARD (NASW-3604-2, NASW-3604-2A, NASW-3604-2B)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitor	
C920	3500065A	0.01μF, AC400V/125V, Capacitor
	Switch	
S901	25035614	NPS-121-L576P [D][W]
S901	25035550	NPS-111-L512P [G][A][B]

FUSE PC BOARD (NAETC-3605-2, NAETC-3605-2A, NAETC-3605-2B)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Fuse holder	
F901a	250113	S-N5051 [D][W]
F902a	25050065	YSH403T [G][W][A][B]
	Fuse label	
F901b	29360486	7A/125V [D][W]
F902b	29360374	T4A/250V [G][W][A][B]
	Terminal	
	25060092	NTM-1S33
	Socket	
P901	25050388	NSCT-6P215, AC outlet [D]
P921	2009990005	NSAS-04P0009, Socket ass'y [D]

INPUT SELECTOR SWITCH PC BOARD (NASW-3607-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switches	
S301, S305	25035613	NPS-442-L575
	Socket ass'y	
P102	2009990012	NSAS-8P-0021
P311	2009990018	NSAS-6P0042
P312	2009990017	NSAS-6P0041
P314	2000949	NSAS-6P901
P953	2009990007	NSAS-16P0011
	Jumper	
JL212	2050014	NCS-9P2E37

INPUT LED PC BOARD (NADIS-3608-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D201~D207	225137DG or	SEL2413E-DG or
	225137DY or	SEL2413E-DY or
	225137CG	SEL2413E-CG, LED
	Holder	
	27190530	Holder (LED)

SOURCE DIRECT SWITCH PC BOARD (NASW-3609-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switch	
S353	25030313B	NRSF-142-20SS
	Sockets ass'y	
P501	2009990002	NSAS-08P0006
P362	2009990019	NSAS-14P0043

TONE CONTROL CIRCUIT PC BOARD (NAAF-3611-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C301~C304	374721635	0.016μF, 50V, Film (TF)
C305, C306	374721825	1800pF, 50V, Film (TF)
C307, C308	374728234	0.082μF, 50V, Film (TF)
	Resistors	
R301	5148107A	N16RGMC250KMN25, Variable
R302	5142002	N16RGM11C100K25, Variable
R303	5144011	N16RQM11C70K88K25, Variable

MUTING/MODE SWITCH PC BOARD (NASW-3612-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switch	
S331, S332	25035601	NPS-222-L565

POWER LED PC BOARD (NADIS-3613-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D911, D912	225142DX2	SEL2913K-DX2, LED
	Jumper socket	
JL955	25050267	NSCT-3P95
	Holder	
	27190678	Holder, LED

SERVO LED PC BOARD (NADIS-3614-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D881	225137DG or	SEL2413E-DG or
	225137DY or	SEL2413E-DY or
	225137CG or	SEL2413E-CG or
	225137CY	SEL2413E-CY, LED
	Holder	
	27190679	Holder, LED

VOLUME CONTROL PC BOARD (NAAF-3616-1)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistor	
R321	5104252	N27DGL50KBT25, Variable

EQUALIZER CIRCUIT PC BOARD (NAAF-3617-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q105, Q106	222902	NJM5532D-D
Q109	222780205MIT	M5F78M20L
Q110	222790205MIT	M5F79M20L
	Transistors	
Q101, Q102	2211535 or	2SK146GR or
	2211536	2SK146BL
Q107, Q108	2211255	2SC1815GR
	Diodes	
D101~D104	225251	TLR112
	Capacitors	
C105, C106	372121214	120 pF, 50V, Styrene
C109, C110	354721019	100 μF, 6.3V, Elect.
C111, C112	372122024	2000 pF, 50V, Styrene
C113~C116	379122434	0.024 μF, 50V, Film (DEW)
C117, C118	379124334	0.043 μF, 50V, Film (DEW)
C119~C122	391651017	100 μF, 25V, Film (FS)
C123, C124	379122024	2000 pF, 50V, Film (DEW)
C129, C130	354780109	1 μF, 50V, Elect.
C147, C148	354761029	1000μF, 35V, Elect.
C149, C150	354721019	100 μF, 6.3V, Elect.
C151, C152	354754719	470 μF, 25V, Elect.
	Resistor	
R117, R118	442523314	330 Ω, 1/2W, Metal oxide film
	Switch	
S101	25065366	NSS-84139, Slide
	Terminals	
P101	25045190	NPJ-2PDBL74
P201	25045202	NPJ-4PDBL83
P202	25045182	NPJ-2PDBL72
	Jumper socket	
JL959	25050271	NSCT-7P99
	Clamp	
	27300833	WS-2NS

POWER SUPPLY PC BOARD (NAPS-3620-2)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D921	22380014	PB102F
D925, D926	22380003	1N5402F
D931, D932	22380013	RDF02M
	Capacitors	
C921, C922	3500101A	15000 μF, 71V, Elect.
C923, C924	374503345	0.33μF, 125V, Elect. (ME)
C925	374504745	0.47μF, 125V, Elect. (ME)
C931, C932	379122235	0.022 μF, 50V, Film (DEW)
C933	354741029	1000μF, 16V, Elect.
C935, C936	379121035	0.01μF, 50V, Film (DEW)
C937, C938	354761029	1000μF, 35V, Elect.
C939	374501045	0.1 μF, 125V, Film (ME)
	Resistors	
R923	442525104	51 Ω, 1/2W, Metal oxide film
R931	442520104	1 Ω, 1/2W, Metal oxide film
R932, R933	442522294	0.22Ω, 1/2W, Metal oxide film
	Bracket	
	27301212	Bus

[D]: Only 120V model
[G]: Only 220V model
[W]: Only 120V/220V model
[A]: Only Australian model
[B]: Only British model

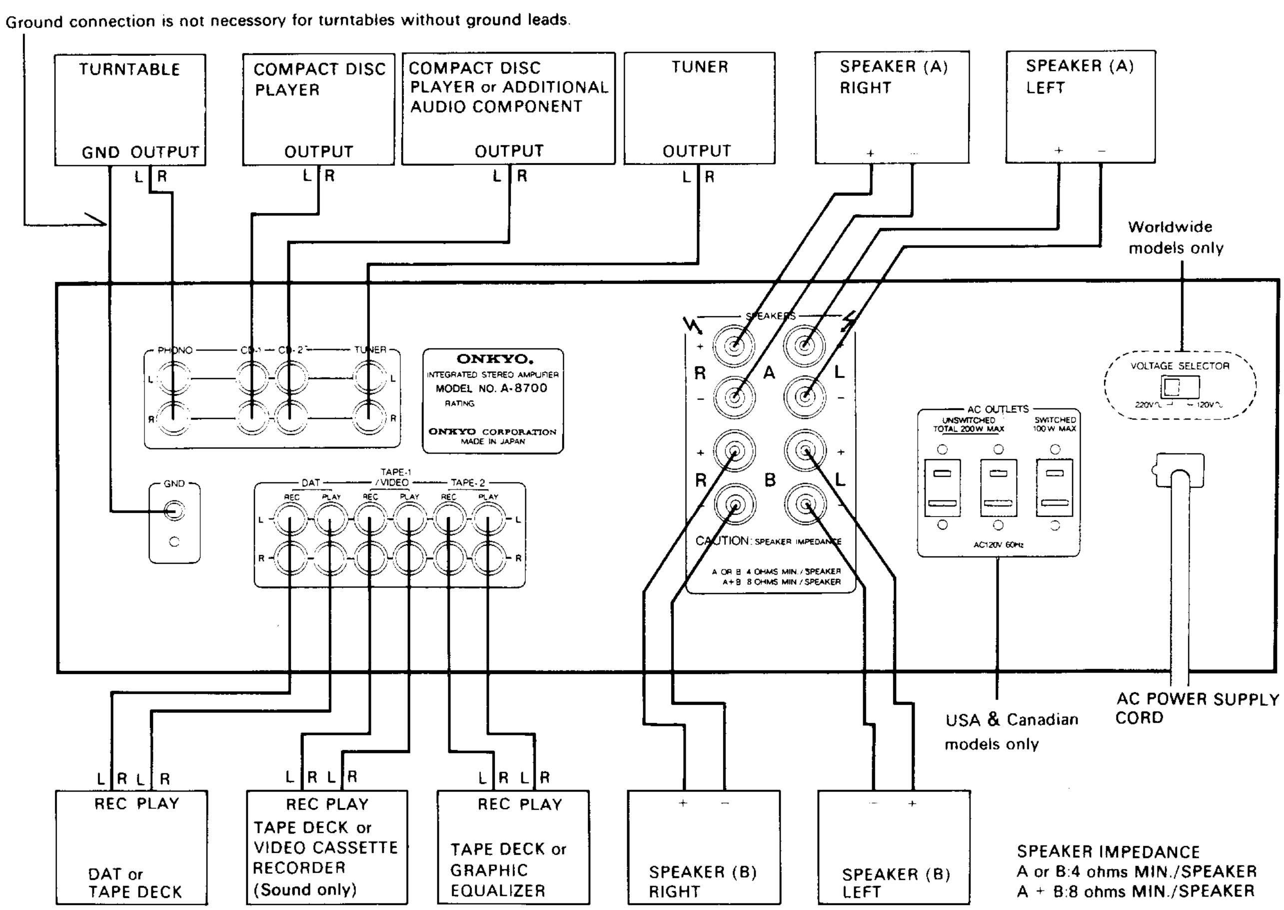
PARTS LIST OF PACKING

REF. NO.	PART NO.	DESCRIPTION
A851	29051942	MASTER CARTON BOX
A852	29091125-1D	PAD, LEFT
A853	29091126-1D	PAD, RIGHT
A854	261504	PAPER TAPE
A866	29100063	500 × 750, POLY-VINYL BAG
A867	282301	SEALING HOOK
A867	260012 or	DAMPLON TAPE (W=50) or
	29110071-1	DAMPLON TAPE (W=50)
	29360778	LABEL (FLASH) [N]
	29380054	AC COARD TAG [B]
	29360863	LABEL (CAUTION) [B]
	ACCESSARY BAG	
	29341429	INSTRUCTION MANUAL [D][N]
	29341430	INSTRUCTION MANUAL [G][W][A][B]
	29365019	WARRANTY CARD [N]
	29365022	WARRANTY CARD [B]
	29358002G	SERVICE STATION LIST [N]
	25055018	CONVERSION PLUG CV-K-1 [W]
	29100006A	350 × 250, POLY-VINYL BAG

NOTE [D]: ONLY 120V MODEL
[G]: ONLY 220V MODEL
[W]: ONLY 120V/220V MODEL
[N]: ONLY U.S.A. MODEL
[A]: ONLY AUSTRALIAN MODEL
[B]: ONLY BRITISH MODEL

SYSTEM CONNECTIONS

Do not plug in the power cord until all connections have been made.



SPEAKER IMPEDANCE
A or B:4 ohms MIN./SPEAKER
A + B:8 ohms MIN./SPEAKER